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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/987,628	11/15/2001	P. S. Mohandas	01010-1002	5310

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EXAMINER

NGUYEN, KHANH V

ART UNIT PAPER NUMBER

2817

DATE MAILED: 09/25/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/987,628

Applicant(s)

MOHANDAS ET AL.

Examiner

Khanh V. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-11 is/are rejected.
- 7) ☒ Claim(s) 7 and 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 November 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____

- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, *"the current source includes a field effect transistor"* in claim 5 and *"the constant current source includes: a field effect transistor and a bipolar junction transistor"* in claim 12 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities: page 4, paragraph 19, line 4, "411 111" should correctly be —111—.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless —

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in—

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application

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published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claims 1, 2, 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Hase (JP362059822A).

Regarding claims 1, 8, 11, Hase (Fig. 2) discloses an amplifier circuit comprising: a current source (12); and a differential amplifier (5) having first and second input, wherein the first input coupled to a photodiode/sensor (1) and the second input coupled to the current source (12).

Regarding claim 2, a resistor (3) can be read as a first feedback resistor coupled to the sensor (1) and a first output (7) of the differential amplifier (5); and a resistor (4) can be read as a second feedback resistor coupled to the current source (12) and a second output (6) of the differential amplifier (5)

Claims 1, 8, 11 are rejected under 35 U.S.C. 102(e) as being anticipated by JP 2001126293, hereinafter called Japan.

Regarding claims 1, 8, 11, Japan (Fig. 2) discloses an amplifier circuit comprising: a block (5) comprises a current source (13); and a differential amplifier (3) having a first input (+) coupled to a photodiode (PD) via block (4) and a second input (-) coupled to the current source (13), wherein the photodiode can be read as a sensor.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hase.

Hase (Fig. 2) discloses the claimed invention except for the overall gain of the circuit. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected component(s) value(s) in the circuit to obtain the desired gain, since it has been held that discovering an optimum gain value of a result effective variable involves only routine skill in the art. Thus, the desired gain would considered be a matter of design engineering and system configuration.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hase in view of Inami et al. (5,612,810).

Hase (Fig. 2) discloses the claimed invention except an additional differential amplifier called post-amplifier.

Inami et al. (Fig. 3) disclose an optical receiving apparatus comprising: a photodiode (10) coupled to a pre-amplifier/differential amplifier (20); and a main amplifier (30) can be read as a post amplifier having inputs coupled to the outputs of pre-amplifier (20).

Accordingly, it would have been obvious in view of the references, taken as a whole, to have modified the amplifier circuit of Hase to have included an additional differential amplifier coupled to the outputs of the already existing differential amplifier, as exemplarily taught by Inami et al. Such, as modification would have provided an amplifier circuit free from degradation of duty factor ... (see col. 1, line 60- col. 2, line 2) as taught by Inami et al., to Hase reference, thereby suggesting the obviousness of such a modification.

Claims 4-6, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan.

Regarding claim 4, 5, Japan discloses the claimed invention except that current source is a field effect transistor. Japan (Fig. 2) discloses a current source (13) coupled between the second input (-) and ground. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have replaced current source (13) of Japan with a field effect transistor since it is well-known in the art that current source can be a field effect transistor (see Patent 5,742,183, Figs. 11A-11C). Regarding the operation of the current source or field effect transistor would be considered a matter of design engineering or system configuration to configure the current source or field effect transistor to operate as desired.

Regarding claim 6, Japan (Fig. 2) discloses bipolar transistor (Tr3) having an emitter coupled to a second input (-) via transistor (Tr4) and current source (13).

Regarding claim 10, Japan (Fig. 2) discloses an amplifier circuit comprising: a photodiode (PD) can be read as a sensor generates a current at a first node coupled directly to input (+) of differential amplifier (3); a current source (13) for sinking at a second node coupled directly to input (-) of differential amplifier (3). Regarding the operation of the current source or field effect transistor would be considered a matter of design engineering or system configuration to configure the current source to operate as desired (current source greater than current generated by the sensor).

Allowable Subject Matter

Claims 7 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Claims 7 and 12 are allowed over the prior art because none of the prior art disclosed or suggested showing the particular structure and/or operation recited in these claims namely:

Regarding claim 7, the bipolar transistor having a base coupled to a reference voltage and a voltage at the second input is fixed.

Regarding claim 12, the constant current source includes: a field effect transistor and a bipolar transistor.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additional references (Ota et al. (5,025,456); Kuroda (5,742,183)) show further analogous prior art circuitry.

This art is deemed relevant and should be carefully reviews before any amendment is filed.

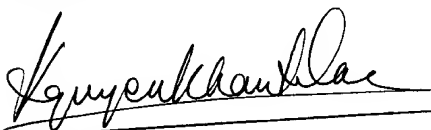
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh V. Nguyen whose telephone number is (703) 306-9058. The examiner can normally be reached from 8:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (703) 308-4909. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Customer Service at (703) 872-9317.

NKV

09/18/02



Nguyen, Khanh Van

Group 2800, Art Unit 2817